Avtex Fibers, Inc

EPA Region 3
Virginia
Warren County
Front Royal

EPA ID# VAD070358684

10th Congressional District

Last Update: August 2002

Other Names: None

Current Site Status

The U.S. Environmental Protection Agency (EPA) is overseeing the cleanup of the Avtex Fibers site. FMC Corp., a party responsible for some of the contamination at the site, has been closing zinc sludge and fly ash disposal areas since May 2001. The cleanup consolidates wastes and secures those wastes with a protective material where needed, a thick soil cover and vegetation (cap). The cleanup integrates the Conservancy Park Master Plan developed for the site. By regrading significant portions of the site, revegetating cleanup areas, and providing the ground work for future trails and roads, the baseline for the conservancy park will be provided.

An approach to manage the remaining 10,500 cubic yards of debris generated from the EPA’s building demolition work is under review by the Virginia Department of Environmental Quality and the EPA. Since October 1999, FMC has managed approximately 104,800 cubic yards of waste and debris. These materials were either cleaned for potential reuse on-site or transported off-site for recycling or disposal.

EPA signed an Action Memorandum on December 21, 2001 which approves decontamination of the remaining buildings and excavation of the remaining sewers. The agency is overseeing the cleanup of the remaining buildings, substructures and sewers which began in January 2002. Not only will this effort manage the remaining environmental threats, it will also facilitate the demolition and reduce costs associated with managing that debris.

A Feasibility Study, which provides a detailed evaluation of cleanup options, for viscose basins 1-8, a landfill, plant soils and wastewater treatment plant, is nearing completion. A cleanup plan which addresses these areas will be proposed this summer.

EPA and FMC continue to evaluate groundwater contamination associated with waste disposal. A plan to install additional wells is under review. Methods to treat viscose leachate are being investigated as the the Feasibility Study for groundwater and viscose basins 9-11 continues.

Complimenting the EPA's Superfund work, is the U.S. Army Corps of Engineers' (USACE’s) non-CERCLA project to abate asbestos and demolish the remaining buildings which will ready the land for commercial/industrial reuse. Specific authorizations for the USACE to conduct this work were sponsored by Senator Warner and Congressman Wolf. Through EPA’s partnership with the U.S. Soccer Foundation, building soccer fields on a 30 acre parcel of land are planned.

Site Description

The Avtex Fibers site, located in Warren County, Virginia is a 440-acres plant that manufactured rayon and other synthetics from 1940 until 1989. Tons of rayon manufacturing wastes and by-products, zinc hydroxide sludge, and fly ash and boiler room solids were disposed on site in 23 impoundments and fill areas encompassing 220 acres. Waste disposal practices at the plant contaminated the groundwater under the site and in residential wells across the river from the site with carbon disulfide, phenol, sodium, and heavy metals including lead, arsenic, and cadmium. In 1989, the Virginia State Water Control Board linked polychlorinated biphenyl (PCB) contamination in the

Shenandoah River to the Avtex Fibers plant. Subsequently, Virginia revoked the plant's permit that allowed treated waste water to be discharged to the river. Shutdown of the Avtex Fibers plant followed this action. Approximately 1,300 people live within a 3-mile radius of the site and depend on ground water as a drinking water supply. A significant amount of waste has been disposed of in impoundments situated within the 100-year flood plain of the Shenandoah River.

Site Responsibility

This site is being addressed through a combination of Federal, State, and potentially responsible parties' actions.

NPL Listing History

This site was proposed to the National Priorities List of the most serious uncontrolled or abandoned hazardous waste site requiring long term remedial action on may October 15, 1984. The site was formally added to the list June 10, 1986, making it eligible for federal cleanup funds.

Threats and Contaminants

The principle contaminants found in groundwater are carbon disulfide, ammonia, arsenic, antimony, phenol and high pH. Arsenic, lead, and PCBs have been found in soils. PCBs associated with the plant were detected in the Shenandoah River. Potential threats to ecological receptors exist from metal-bearing sulfate basin sludge and fly ash waste disposed in open basins at the site.

Contaminant descriptions and associated risk factors are available on the Agency for Toxic Substance and Disease Registry, an arm of the CDC, web site at http://www.atsdr.cdc.gov/hazdat.html EXIT disclaimer

Cleanup Progress

Due to the magnitude and the complex nature of contamination at the Avtex Fibers site, it has been the subject of a number of removal, enforcement and remedial actions. The following is a summary of the major activities performed to date.

Removal Action Summary - At the request of the Virginia Department of Waste Management, EPA initiated a removal assessment in

September 1989. EPA funded removal actions at the site began in November 1989, due to the unstable conditions that arose from the facility's abandonment. EPA funded and performed removal actions at the site from November 1989 to September 1998 to address various threats to human health and the environment that arose as the plant continued to degrade.

Highlights of EPA's emergency and on-going removal response activities include: transferring approximately 2,000 tons of various chemicals for recycle/reuse, on-site and off-site treatment of an estimated 241,000 gallons of flammable and corrosive chemicals, designing and operating a low-flow wastewater treatment system to protect the Shenandoah River from untreated discharges, closing 22 carbon disulfide impoundments which included treating approximately 992,000 gallons of carbon disulfide waste water, treating and removing approximately 1300 cubic yards of carbon disulfide sludge, and disposing of 320 cubic yards of contaminated soils. In addition, the contents of 33 large capacity storage tanks were drained. As part of this action, EPA managed over 770,000 gallons of hazardous and non-hazardous liquids and 320 cubic yards of soil.

Based on EPA's August 1996 building evaluation, additional time-critical removal activities to manage chemical and physical hazards associated with 25 acres of buildings were undertaken. This action, which demolished approximately 17 acres of building structures, generated over 225,000 cubic yards of debris and waste materials and 5,720,000 gallons of wastewater. In September 1998, as part of a global settlement with EPA, FMC assumed the responsibility to complete the manage the demolition debris and waste materials.

EPA selected a non-time-critical response action to decontaminate the remaining buildings and excavate the remaining sewers in December 2001. Decontamination activities which began in January 2002 are continuing.

FMC is closing zinc sludge and fly ash disposal basins which encompass 120 acres as a non-time- critical removal action. This cleanup decision that will protect environmental receptors from the current and future potential risks that the opened zinc sludge and fly ash waste disposal basins present was made in July 1999. The clean up plan consolidates wastes on site and secure the wastes with a

protective material, where needed, a thick soil cover and vegetation (cap). The areas will be monitored to ensure the cap remains protective and ground water remains unaffected in the future.

Enforcement Action Summary: In October 1989, EPA issued a Unilateral Administrative Order (UAO) requiring Avtex to undertake a PCB removal action and an evaluation of the site to address releases that could pose a substantial threat. Due to plant shutdown, Avtex was unable to carry out the actions required.

In February 1990, EPA issued a UAO to FMC Corporation requiring FMC to operate the waste water treatment plant to protect the Shenandoah River. FMC treats and discharges millions of gallons of waste water each year. FMC continues to provide potable water to four seasonal residents as required by EPA's October 1991 UAO.

In May 1992, EPA entered into a Administrative Consent Order with site operators to ensure safe and effective removal of plant assets. With EPA's oversight and support over 44 million pounds of equipment and scrap metal has been appropriately removed for recycling or reuse.

Although EPA and FMC were unsuccessful in negotiating a site-wide Remedial Investigation/Feasibility Study (RI/FS) agreement in 1991, EPA re-opened RI/FS negotiations in 1992 at FMC's request. In March 1993, EPA and FMC Corporation entered into an Administrative Order on Consent to perform a remedial investigation and feasibility study for portions of the site. FMC continues to perform remedial activities under that agreement.

By amending a UAO, FMC agreed to stabilize, monitor, and manage debris and waste materials. During late 1998 and early 1999 FMC and the United States finalized a global settlement in which FMC conducts all future cleanup actions at the site under a Consent Decree. The Consent Decree requires FMC to finance and conduct a series of response actions based upon decision documents which will be issued by EPA.

Remedial Action Summary - EPA issued it's first Record of Decision (ROD) in September 1988. The ROD addressed groundwater contamination coming from three viscose basins on the western

portion of the site. Following the abrupt plant shutdown and technical issues associated with implementing the remedy, EPA suspended this action pending a new site-wide investigation.

Based on findings during EPA emergency operations, EPA selected a cleanup remedy in September 1990. Through this action approximately 7,700 tons of PCB contaminated soil and debris were excavated and disposed of in an approved off-site landfill in April 1992. In April 1993, EPA completed the dismantling and demolition of the acid reclaim portion of the facility. In conjunction with this action, EPA appropriately disposed of nearly 900 tons of hazardous and non-hazardous chemical waste. EPA effectively managed approximately 2,879 drums of wastes collected from throughout the plant for off-site treatment and disposal in late spring 1994. Site security measures are being carried out to protect trespassers and on-site workers from the chemical, structural, and physical hazards still present at the site.

EPA and FMC have undertaken studies to determine the nature and extent of contamination and to identify alternatives for cleanup of the disposal areas, soils, groundwater and surface water from 1993-1995.

In 1997, FMC Corporation (FMC) completed treatment studies to recover zinc from sludges contained in disposal basins along the River; however, a viable solution could not be found. In May 1997, EPA completed an additional phase of field investigation to evaluate the River and site-wide ecological impacts and issued a final report in February 1999.

Feasibility Study work plans to address the remaining disposal areas and groundwater at the site were finalized during the Summer 2000. Additional groundwater investigation to delineate the extent of contamination is being conducted so that response actions can be formulated and evaluated. Sampling water from residential wells was conducted during the Summer of 2001.

Contacts

On-Scene Coordinator
Glen S. Lapsley
215-814-3279

lapsley.glen@epa.gov

On-Scene Coordinator
Vincent E. Zenone
215-814-3267
zenone.vincent@epa.gov

Remedial Project Manager
Bonnie Gross
215-814-3229
gross.bonnie@epa.gov

Community Involvement Coordinator
Ruth Wuenschel
215-814-5540
wuenschel.ruth@epa.gov

Government Liason
Cristina Fernandez
215-814-2178
fernandez.cristina@epa.gov

The detailed Administrative Record can be examined at the following locations:

Samuels Public Library
538 Villa Avenue
Front Royal, VA 22630

U.S. EPA Region III
6th Floor Docket Room
1650 Arch St.
Philadelphia, PA 19103
215-814-3157